ABSTRACT

An immortalized human cell line is provided which has the characteristics of human embryonic microglia. Such immortalized microglia cells express CD68, CD11c and MHC class I and II antigens as surface markers; have demonstrable phagocytic properties; and produce progeny continuously while maintained in culture. A method of transforming human microglial cells into an immortalized cell line is also provided. The genetically modified human microglia cells can express active substances from a selected group consisting of MIP-1β, MCP-1, IL-1β, IL-6, IL-12, and IL-15; and in the stimulated state can overexpress at lest cytokines, chemokines, and other cytotoxic and neurotoxic substances. Such immortalized microglia cells can be used for screening of compounds for diseases. These cells may be utilized for the treatment of at least Alzheimer disease, Parkinson disease, Huntington disease, amyotrophic lateral sclerosis, stroke, spinal cord injuries, ataxia, autoimmune diseases and AIDS-dementia.